Rec'd Octob 4th
Ans Jan 10
Sagittaria

Wilmington Del
Sept. 30. 1858

Dr. Geo. Engelmann
St Louis.

Dr Sir

At the sug=
gestion or rather request of Dr.
Asa Gray I send you a Specimen
of Isoetes and three? Species of
Eriocaulon. The Isoetes was coll=
ected in a bog several miles from
tide water and where it could
never be inundated. It was imm
ersed in mud or shallow water
only about one inch. I should
send more but collected but
few and have retained but
one poor Specimen. You will
much oblige me by naming

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it for me. It differs somewhat from the description of I. Engelmann but may be it. The Cuscuta I also send for names. C Gronovii is common with us as also the C. compacta. The one marked C. chlorocarpa? was collected in the alluvial soil near this place which much resembles that of the western Prairies. That without a name grows with C. Gronovii and differs principally in the size of the flowers 1/3 size and the narrow and more acute corolla lobes which is frequently 4 parted.

I am publishing a Catalogue of the plants of our County and am therefore very anxious to be correct which is my apology for troubling you.

It is a singular fact that in this county (New Castle) with an area of less than six hundred Square miles

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(and that but partially searched)
we have nearly one half of all
the flowering plants included in the limits
of Dr Gray's last edition, comprising seventeen States and with
an area of over 450,000 sq. miles
a considerable part of which is
alpine region, of which we
have'nt a single representative.
My dear old friend Dr. Darlington says we are the "banner
county" of the United States.

very truly
yours &c
Edw Tuckerman

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No of Species in Gray.	2351
" " Acrogens in do	75
	2426
No of Phanogens in N.C.C.	982
" of Acrogens — —	38
	1020
In adjacent counties probably in this	43
	1063

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Rec: Jan 19
Ans March 31

Wilmington Del
January 15th 1859

Dr. G. Engelmann

Dr Sir

Yours of 10th inst
rec'd this day and more the less
acceptable from the delay. I am
glad to know that our plant is
C. Engelmanni and to have your
corrected description of it which
I will transmit to Dr A Gray.
The C. lacustris has been found in
our vicinity but I have never
seen it growing. I never found
the Cuscuta chlorocarpa till this
season and cannot answer your
query as to its always being without
scales. The Cuscuta without name
grows with C. Gronovii and seems
to differ from it mainly in the

smallness of its flowers and is proba-
bly one of its forms. As nearly as
I remember the corolla is inferior
as in C. Gronovii. I sent my best
specimens to Dr Darlington who was
unable to determine its species.
Until the last season I have not
distinguished our species but con-
sidered them all C. Gronovii but
accidentally stumbling on to C —
Compacta. I was struck with the
difference and looked closer into it.
Its perhaps have C inflexa also.
I have paid very little attention
to the Sagittaria, but have for a
long time thought that some of
them were annuals. We have a
very small species growing in slow
streams (always submersed) which sel-
dom blooms and which I have thought
must be distinct from S. graminea

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It has no proper leaf or rather blade and the petioles? very fleshy and dilated at base almost like I ovates and consisting almost entirely of transverse partitions rendering the whole plant almost translucent. I collected a few specimens this season but very carelessly neglected them in drying and misland them. I will if found send them to you with pleasure. The natans does not grow with us that I am aware of. I much question our S. pusilla being "a desperate state of S. natans". The former is stiffly erect with us and does not as often grow in the water as on the muddy shores of ditches and creeks, whilst the name of the latter would at least imply that it grew in the water and was dishored to the horizontal mode of growth. If I should

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I am aware that C. falcata does not

I am allowed the privilege this coming season I will endeavor to send you Specimens of our Species.

I enclose a singular form of Anacharis almost distinct enough to make a Species but I presume in these latter days we must be careful how we multiply Species. I have a seed I should also like to send you but must wait another opportunity lest it should ruin the Specimin enclosed. It is of the Chinese Pie Melon which when cooked in a pie if flavored with a little Lemon juice cannot be distinguished from Apple pie It resembles in vine and fruit a Watermelon, but it is entirely solid like a Citron Melon and has a very pale green rind and is very heavy.

Very respectfully &c
Edw'd Tatnall

Rec: Nov 14th
Ans Nov 23

Wilmington Del
Nov 7th 1859

Dr. G. Engelmann

Many thanks my dear sir for your kind remembrance in sending the Monograph on Cuscuta and the two new Diacious grasses me this day. My ill success in discovering anything respecting the Sagittaria has deterred me from writing. The cares of a sick family and business have prevented my visiting our alluvial formations (two miles distant) as often as I could have wished and the similarity of form of the young state of all the species completely bewildered me when I did make the attempt. I had intended to secure the seed of the S. Pusilla and plant it where I could observe it almost daily but every moment almost which I could take from business I had to devote to an almost helpless wife and was thus

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disappointed. My few visits to the "Marshes" have however not been without some results, of which I will speak below. Is not P. heterophylla var elliptica sufficiently distinct and constant for a species? It seems so with us, grows not intermixed with others and seems to root out the others and taking entire possession of the ponds and ditches. After two hours duty up stairs I resume my pen to say a few words more. As a result or I should say the result of my search after Sagittaria's I have determined the Potamogeton crispus L. to be a native as the enclosed letter of Dr Gray will confirm. Dr G. wrote me as you will see to secure some good native specimens. I had no opportunity of visiting the locality (where it was abundant) for about a month when not a vestige was to be found much to my chagrin. I raked the bottom without success and conclude it must have been

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eaten by wild Ducks or some other
kindred fowl. Next year I hope
to secure a quantity of it. I enclose
a specimen of the Arachoris I spoke
of in a former letter. I suppose it is
only a form of Canadensis. Please
return Dr Gray's letter when you write

and oblige

yours truely
Edw Tuckerman

Rec'd June 7th
Ans June 12

June 4th 1860

Dr G. Engelmann

My Dear Sir

Your kind favor of Nov. 23rd 1859 has long remained unanswered, which has seemed unavoidable. I have just received some specimens of Potamogeton crispum and having a letter from Dr Gray requesting some 40 specimens have sent all I had to him. One of the reasons of the delay in writing was that I have not been able to get the species of Isoetes you requested. I had previously distributed all that I had except two specimens which I had put out for you when by some mishap or perhaps carelessness of the servants they, together with all the Cus. Chlorocarpa I had, were mislaid or destroyed. The small Isoetes found near Philada does not

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near this place
grow with us, and I
have been unable to
get any from other sources.
I gave a good deal of time to the early
stages of growth of Sagittarias but they
all resemble each other so much when
quite young that I have nothing Satis-
factory to report. Later in the season
I was so much engaged that I could not
even visit their locality. The Euphorbia
Ipecacuanha does not grow with us
at all, nor E. gracilis. I wrote to several
correspondents in Philad^a for specimens
of the former.
but without result. My specimens are
not in fruit and therefore of no service
to you. If possible I will collect and
send you some of the Cus. Chlorocarpa
when in flower. It is very unsatisfactory
to study botany as I am compelled to do
for a short time only, and even then
very superficially.
The new Sagittaria S. calycina has
not been detected with us so far as I

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am aware of but I do
not doubt our having it.
Some years ago I found
the Paspalum vaginatum Ell (a south carolina
plant) in a pond which was dry that
year for perhaps the first time in fifty
years. How came it there? This year I
found the Dianthera a Virginia plant in
abundance and for the first time in
this county the Ilex laevigata and Brasenia
peltata both plants of the pine swamps
of N Jersey. In 512 sq. miles we have al=
ready discovered over 1100 species whilst
Dr Gray describes but 2426 species in his
Manual. Besides these there are probably
160 in our county yet undiscovered.
Dr Darlington says we and the Lancaster
county in the United States.
You once said the Philada Isoetes was
not I. lacustris. please inform me what
it is. Our catalogue is in the hands of the
printers and I wish to have it correct
yours truly
Edw Tatnall

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Rec'd July 9 14
Ans'd same day

Wilmington Del
July 5th 1860

Dr. G. Engelmann

Dr Sir

In my endeavours to find for you, fruiting Specimens of Sagittaria pusilla (unsuccessful however) I have found a species new to me or at least new in fruit. I have heretofore taken it for the early states of some of the larger species. It answers the description of your S. Calycina as far as that goes (I should say as far as your extract goes) The plant is small, three to six inches high. The internode of the petioles is very open almost translucent. Leaves very variable from narrow to broadly hastate shaped. Scapes sometimes external or arising from the side of the root, very thick. Pedicels thick and succulent in fruit. Whole plant fleshy or rather "dropsical"

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Petals small or none, Calyx
"covering the fruit" partly. Heads of
fruit large for the size of the plant.
When dry will send specimens.

I have secured some good spec=
imens of Isoetes Engelmanni for you.
I observe, it always grows in or near
spring water. I have however seen
specimens of an Isoetes
in a nearly dry pond which
differed from those I have, in being
less green in colour (more inclined to
yellow) more brittle, more open in
internal structure and more robust.
I did not think it different when I
saw it and therefore did not get
any specimens. On reflecting more
particularly to the descriptions the
differences noted above struck me.
One other peculiarity. The plants were
all reclined in one direction as if
a strong current had passed over it
which was impossible. The pond was
full of it. I should say 10,000 plants

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in a diameter of fifty feet. I intend visiting it again on purpose to secure specimens. I am sorely puzzled with the Sagittaria (elliptica). I have a large plant say 1 to 1½ ft high and one say six inches high which resembles it in some respects, but differs in many the fruit is sessile or nearly so whilst the former pedicel is ⅛ in long, Glenden latter Scape in seldom reclined, leaves small 1 inch long 2" wide, former 4 to 6' long 2' to 4' wide Whole plant more harsh or wiry to the touch. Scape longer than the leaves. Sometimes no proper blade, the petiole acutely or obtusely pointed, never sagittate or broad at base. Will send Specimens if I can get good ones. The S. fusilla or rather the plant I have taken for it, ~~has~~ so far as I could judge from all that I could see to day, has now but staminate flowers. I took an unfortunate time (high tide) and was unsuccessful mostly on that account.

truly yours
Edw Lataill

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Aug 12th

Aug 7 Wilmington Del

July 9th 1860

Dr G. Engelmann

Dr Sir

I enclose a few specimens of the Sagittaria I mentioned in my letter a few days since. Please let me know soon what you determine it to be so that I may have it inserted in our Catalogue now in press. I can not get it in the proper place but if in time can be put in the Addenda.

very truly &c

Edw Tatnall.

I find Cuscuta chlorocarpa again this season but not yet fit to gather.

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Rec'd July 17th
Ans July 20

Wilmington Del
July 12th 1860

Dr. G. Engelmann

Dear Sir

I write to say that the plant sent you, has perfect flowers as I have just discovered from fresh specimens and I suppose therefore it is not Sagittaria. The ~~leaves~~ are smooth neither nibbed or beaked or winged so far as I can discover. Can it be Echinodorus? The flowers are seldom fully expanded. Stamens about nine.

I collected three specimens to day of Sagittaria (perhaps) simplex except they were diœcious; fertile pedicels rather longer than sterile. Scape long, slender, twice as long as the awl shaped petioles? the proper blade mostly none the.

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petiole rigid and very acute.
the blade when present nearly linear.

In haste

Yours truly
Edw Lothrell

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Rec'd Aug 20th
Ans same day

Wilmington Del
July 14th 1860

Dr. G. Engelmann

My Dear Sir

Your Kind favor of 9th inst just at hand. You are correct in supposing that the spores of Isoetes are not yet fully developed; when they are I will get you the "neglected one". I supposed when the specimens had attained a foot in height that the spores were developed and carelessly neglected to examine them until after I had written to you. I should think the roots in a living state might be sent to you packed in wet moss by Express.

You have doubtless seen this account the specimens of Sagittaria? I sent you as also a note questioning its being a Sagittaria. I have collected numerous specimens and find them all to have

perfect flowers with about 9 stamens.
You can of course make your own
observations on them I sent you what
I selected on account of the larger heads
of fruit and variable leaves. It appears
I did not make myself comprehended
respecting the two other Sagittarias. The
smaller one has not melined scapes.
The larger one (no 1) about 1 ft high with the
melined scapes is S. heterophylla var
elliptica. The other (no 2) is 3 to 6 inches high
fruiting pedicells much as in the last
but mostly only one or seldom two fertile
heads in the lower whorl. Leaves much
as in the last (the developed ones) but very
much smaller the blade being scarcely
an inch long and often without blades.
I had called this S simplex until I
last week found a third (no 3) which so
far as I can tell is dioecious, the sterile
plant having several (3 to 4) whorls the
lowest pedicels the longest; the fertile
having but a single whorl; which
must

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must be the simplex, or a new one. The
I. falcata I have never seen and
feel very sure it does not grow with
us. Yesterday I fortunately found a
locality of I. fusiella; specimens of which
I enclose. I am now satisfied that what
I had before I. fusiella was only
a dwarf form of № 2 with the fertile
heads somewhat pedicillate.
I will send you specimens when dry
of Nos 2 & 3 and in the meantime will
call your attention to the peculiar
shape of the petiole of No 3. Leave broad
tapering in a straight line to a sharp
point, flat above, rounded beneath.
I can send you any quantity of I fusiella
if the enclosed is not sufficient. You
will find one specimen with the head
of fruit quite well grown but I can
not say ripe for I do not know what
ripe is. I am inclined to the belief that
it is perennial and now that I have a
well marked locality with no other
species

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growing within ten feet will if able
in the Spring visit it with that object in view.
Can it be a var of S. natans? We have
the natans and therefore I ought not to ques-
tion; but the Basilla grows in the mud
and under the water (not tides) and takes
on the same form in both situations.
It would seem to me that if it wanted
to be S. natans it had every opportunity.
I feel very anxious to know what the
Plant is I last sent you. The more
I see of it, the more I see the dissimilarity
~~to~~ to Sagittaria. One is, it has no proper
whorl, but a forked scape, thick and
sometimes also
and lateral; with the thick pedicels;
the perfect flowers I have already
noticed. It is rather rare; growing sep-
arately and not in masses like Sagittaria.
No 3 is quite rare (in flower) but frequent
without.

Yours truly

Edw Latuall

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Aug - July 21st
Aug - 25

July 16. 1860

My Dear Sir

Please find herewith a few specimens of each of the Lag=ittaxiae which bother me. I have marked them as best I could and have an idea they are somewhat akin to the Will O' the wisp of their habitat. At all events they are as perplexing in one way as that is in another and it seems remark=able that one of the species has not been named obscura or dubia or ambigua. You have hit it well in naming the variabilis and the the heterophylla would have been improved by calling it heteromixa.

I have found a little relief in the discovery this day of the Dimianthus micranthemoides within a short distance of my house but not a flower. The fruit resembles a little big but I can only make it 3-parted

instead of 4 as the books have it.

Gray does not give the time of flowering but those who do, say Aug whilst in the middle of July the fruit is fully formed. Is the plant well known or is it a supposition of Nuttalls?

Dr Gray seems to think it may be a Micranthemum. It seems to me that thing ought to be settled if the two plants are sufficiently common to compare them fully. I cannot tell about the latter but the former can be obtained in small quantities.

A matter has just occured to me. The fruit was all buried in the mud and only two or three leaves above without fls. or flowers. Can the fruit have been of last years? and remained like some of the Oaks? I can not see how it can be this years fruit under the circumstances.

You must by this time be tired of me so will quit for the present.

Yours truly
Edw Lafuall

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Rec'd July 28 '64
" 31

Wilmington Del
July 25th 1860

My Dear Sir

Your favors of 20th & 21st inst both at hand and fearing a press of business will reply as far as I can. I had thought the S. Pusilla was not pressed hard but have now a lot with larger sized fruit just laid in papers "without pressing at all". I cannot think it is a variety of S. natans. I would be glad to serve you by examining the fresh plant but have not sufficient confidence in my observations with the means at hand. I have already made a few notes on our Sagittaria calycina but they go against its being a Sagittaria viz "Flowers all "Staming mostly nine". perfect". I have not been able to distinguish between male & female)." Achenia somewhat "4 angled Flowers not whorled but in umbels "of three (mostly two) flowers on thick pedicels "recurved in fruit, but a single flower

"blooming at a time. Scapes several
" at first one to each external leaf
"(more central) and sheathed by the broad
"bases of the petioles; at length one to several
"of the outer ones becoming external and
"lateral by the decay of its sheathing petio=
" le; plant annual?" I will examine
more particularly as to position &c of
stamens; my impression is that they are
regularly disposed and not in parties.
I find it to be quite common with us.
I cannot without further examination tell
the position of stamens in S. fusilla. I
have never seen stamens in the fertile
flower nor ovaries in the sterile. Strange
Purch should have taken a Rumex leaf
for a Sagittaria the venation should have
told him better. We have not so far as
I now know the S. fusiformis in our locality.
I sent you specimens of "No 3" in the
second lot marked "S simplex?" will
send more soon. I cannot say that it is
always dioecious but I have found many

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Scapes with the remnants of two to three whorls of sterile flowers and other scapes with seldom more than one whorl of three fertile flowers. of course on different plants. I have not yet seen ster. and fert. flowers on the same scape. I can distinguish it from all the others (by the petiole as described to you and by the regularity of their disposition like the spokes of a wheel) without a flower. I have one specimen with a broad (1/2 in) blade much like the small forms of Heterophylla but you but distinct in other characters. Will send it. S. Fusilla is monoicious & dioecious also, seldom more than one fertile flower to a scape and often none. Scape as well as pedicels recurved after flowering but not much as S. Heterophylla. It grows nearly alone a few specimens of S. simplex intermixed and a few Nuphar Kerting the locality. Many of the plants are entirely and constantly under water not blooming there however. It has no black to the

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leaf with us. I have not given much attention to the Spargania but am satisfied from recent observation that we have two distinct species here one the S. simplex. Fr. and what I supposed must be S. Ramosum but could hardly distinguish between that and very carefully. will give them more attention. The leaves of our Sag. heterophylla var elliptica are much more acute than your sketches both at the base and apex. I enclose some of the akenes of your S. calycina var Engelmanni from the largest heads I could procure (1/3 in) also a few specimens of the Reniformis which I see Chapman makes a alliciranthemum but says "six to 12 inches long" while ours is but about an inch. If you will settle the matter I will send you specimens. plenty of ripe fruit but I have not yet seen a flower. the fruit must be looked for.

yours truly

Edw Lathall

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Rec'd Aug 2d
Ans — 4.

Wilmington Del
July 28th 1860

Dr Engelmann

Dr Sir

As soon as possible after the receipt of your two Kind favors, I visited the Sagittaria micro scopes in hand a low power to find the little heads on the mud and a high one to examine closely. As the result of my examination I give you the following for what it is worth.

S. pusilla; Nutt. Sterile flowers 1 to 6. Petals orbicular. Stamens mostly 7. one central the other six surrounding it at equal intervals; Sometimes 2 central, and six as before. Anthers subglobose at length becoming sagittate by the contraction of the top. Filaments ovoid acute papillose or Acystaline. Flowers destitute of ovaries. Petals rather persistent.

Fertile flowers. 1. Sepals (as also sterile fl.)

Yours Truly
S. B. Watson

Dr Asa Gray's request. I have written "bot. gazette" on the envelope which contains the specimens

orbicular with scarious margins.
Petals oblong, very obtuse, (narrower than in the sterile) margins wavy, very evanescent withering almost as soon as expanded and remaining enclosed in the calyx, partly covering the head of fruit and leaving the appearance of an apetalous flower. Stamens none. Ovaris ovoid attenuated, the extreme point (style) a little reflexed. Pedicels, after flowering, much recurved making an angle of about 60° with the base of the scape, sterile pedicels suberect. Flowers 1/3' wide. Leaves linear 1' to 2' long 1½" wide all destitute of proper blade.

S. simplex, Ph. Monoecious and dioecious. When monoecious the lower whorl only, fertile, when dioecious a single whorl of 3 fertile flowers and the sterile of two to four whorls, pedicels never recurved the lower longer. Scapes erect. Sterile flower, Ovaris none. Anthers globose almost sessile; Filaments very short, broad-ovoid or globular with an acute point, papillose or crystaline. Fiber leaves subulate, flat above, rounded beneath,

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nearly horizontal
acute, 2' to 3' long 3" to 4" wide, radiating neg=
ularly and recurved. Later leaves erect
petiole 4' to 6' long 1" wide blade linear=
lanceolate acute 1' to 1¼' long and 2" to 4" wide
equalling or exceeding the scape. Petals
orbicular in both. very deciduous. Repe
fruit not yet seen. I have not yet ex=
amined the S. calycina closely but suff=
iciently to day, that I can detect no differ=
ence between the "sterile" & "fertile" except that
occasionally one has a more slender ped=
icel. Only one flower on the scape is ex=
panded at the same time. The stamens
are almost uniformly 9 and that they
are regularly arranged.
The small variety? of S. heterophylla non
elliptica? which I sent you, I suspect
is the plant intended by Pursh as a cuneifolia
and the larger one with acute base to the
leaves (although the scape is reclined and
the fertile flower sessile?) seems to differ
from other plants (which agree in leaf
with your figure of the leaf of that var.) which

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I have since found these but not flowering. The petiole in one is 3 angled in the other 3 acute angles with 3 intermediate obtuse angles. I will send you the blade and scape of the one I am doubtful of which I will thank you to return with the name. I get bewildered with the numbering and am none the wiser for your kind indulgence. I will also send some other specimens for a name and a lot of S. spiralis "not pressed". I sent you early in the week a vial of what I took to be ripe akenes which I hope you have rec'd. In sending I will write queries &c to each specimen so as to avoid confusion. Since the receipt of yours I have secured the largest specimens I have yet seen of S. calycina being 6 or 8' high with numerous basal leaves and 4 or 5 scapes with ripe fruit. Dr G. writes me that their plant has only bladderless leaves. I will send him some of my best. If you desire more of the Nemicauthus I am at your service. Those lots were poor specimens on account of not being pre-

Yours truly
Geo. Engelmann

while making better drawing

"specimens "hor. pressed"

rec'd. I have

Rec'd Aug 10th/60

Ans Sept 4 Wilmington Del

Aug. 8th 1860

My Dear Dr Engelmann

Yours of 31st ult duly rec'd. I was taken by surprise by your decision as to Elatine. I do not however feel much chagrined at my ignorance for the veteran (Dr. Gray) did not recognize specimens sent him. The specimens sent in the vial were intended for ripe fruit of S. gracilis and the receptacles were sent, only, to keep them together. The seed started readily from the receptacle and I thought were, therefore, ripe. I will endeavour to send you ripe seeds. Without further search I am able to say the S. gracilis makes stolons. I have never found 2 fertile flowers on the same plant. If I said it was dioecious I was wrong I should have said some plants have no fertile flowers but I have not found the fertile alone. I thought yesterday I was able to detect the ster. and fert. fl. of S. calycina and have

put up several of each in alcohol which I will send to day. I have also put up a few of each of I. fusilla but find the fert. fl. of that species very scarce. If they retain their form you will see, but one of the fert. is fully expanded; the others barely open enough to show the character. I reserved an hour to get the fruit. You will also observe that each has cluster of sterile buds attached showing that the fert. expands befor the sterile. you have probably ere this need my description and package of Sagittaria. I yesterday secured a lot of fine Isoetes Engelmanni which I will send when dry. The "new one"? I have not yet been able to visit and fear the drouth has finished it. Your distinctions of I. riparius and I. fusilla are interesting. I send your letter to day to Dr Gray. You will find a third vial containing a plant which I think must be a potamogeton but you will please decide that. It grows on the mud and not in the water; lies nearly flat, though sometimes reclines against its neighbors. The

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whole plant is best 1½' long. The fruit is axilary or sessile? in the upper axils. I send you the only fruiting specimens I have; the flowers I have not seen. The plant seems to be scarce and has a preference for mud in which is a large proportion of decomposed wood the roots clasping and permeating the small particles. Grows with Eleocharis filiculmis.

Awaiting anxiously your solution of this last puzzle I am

respectfully yours Va
Edw Tatnall

What are the enclosed?

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Rec'd Aug 24th
Ans Aug 25

Sept 4 Wilmington Del
Aug. 21. 1860

Dear Dr Engelmann

I suppose ere this you have received a copy of our Catalogue. It would have been wiser in me to have examined it before sending. I find several errors, all of which you will please correct. Two of them in the addenda you will readily recognize. I sent the Elatine to Dr Gray as Americana & as he did not correct me it was ~~into~~ inserted ~~herein~~ into the catalogue under that name before I rec'd your letter also the Sparganium ramosum. The printer makes me more ignorant than I am by making me say Valenaria herbiola & Br. is identical with Platanthera cristata of Lindl. instead of P. flava Gray. The other errors so far as I have seen are typographical and will be readily

detected and connected by a botanical eye. Please consider it a maiden effort and make due allowance accordingly. I have ventured to differ with Dr Gray in considering the Panicum hispidum, Muhl. distinct from P. Crus-galli, L.

Some two weeks ago I sent you the fertile and sterile flowers of P. pruriens and P. Walteri, P. Spongiosum in alcohol as requested, and with them a vial of what I took to be a Potamogeton, also in alcohol; since which I have not heard from you. I feel a little anxious about it lest it should have miscarried, the more because I have not been able to get more of it. I believe I wrote you a little history & description of it so far as I could tell by my imperfect means and sent the plants in alcohol so that you might have the best opportunity of judging of the characters without being misled by

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the contraction of parts of the fruit.
I truly hope it was received safely
as it is certainly named, and the fruit still
more so. I sent dried Specimens to Dr
Gray and am looking for his reply. I
could however send him but a single
fruiting Specimen and that, even, hardly
perfect.
Anxiously expecting to hear from you
I am
very truly &c
Edw Tatnall

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Rec'd Sept 15th
Ans Same day

Wilmington Del
Sept. 8. 1860.

Dear Dr Engelman

Your two Kind favors of 4th inst and 28th ult. both received You must indeed be busy if you have all to do you speak of, which makes me regret having taken so much of your time, but a consolation to you is that my busy season is approaching when as a necessity you will not be so often troubled. We shall of course in some way have the result of your labors for our information.

Imagine my surprise on opening yours of the 4th inst to read that the little plant was nothing but Potamogeton hybridus and the more as Dr Gray's letter just rec'd says "It does not seem a Potamogeton". True he had no fruit but I sent him a description of the fruit as well as I could and he had

the dried plant showing the two ranked spatulate leaves which as well as the fruit are sessile. In his description D. 434 he says "leaves linear almost capillary" "Rel more or less tooth-ed or crested". Our plant has three keels which are interrupted or more properly sinuate but more obtuse than the rough sketch. P. hybridus, fruit on short peduncles, our plant sessile? Our plant grew in wet mud but not in the water. I hope you will excuse my presumption in even expressing the result of my casual observations. Your observations respecting Sag. pusilla agree with my own, respecting the bract but ~~to~~ having ~~an~~ imperfect apparatus I thought the three bracts might be distinct but keeny close pressed so as to resemble one. I however believe there is but one. The flowers of S. calycina are mostly fertile without regard to the number of stamens. Occasionally we find one

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on a more slender pedicel which is generally abortive. The arrange= ment of stamens in your diagram is much the same as in your diagram of Echinodorus in a former letter. Is not this species the connecting link between that genus and Sagittaria? While on the Sagittaria. My nephew brought me to day two ~~spe~~ scapes of Sag. variabilis every flower on which was entirely double like a Camellia and larger at the single flower. Is it not rare to find such monstrosities in a wild state? It carries that peculiarity through its stolons into the young tubers, the original being surrounded by several others. Mr. James informs me that he intends sending you some specimens on Wednesday by private hands and if possible I will also send some Isoetes Lusitanica chlorocarpa &c. Without further trespass on your time. I am

yours truly

Edw Tuckerman

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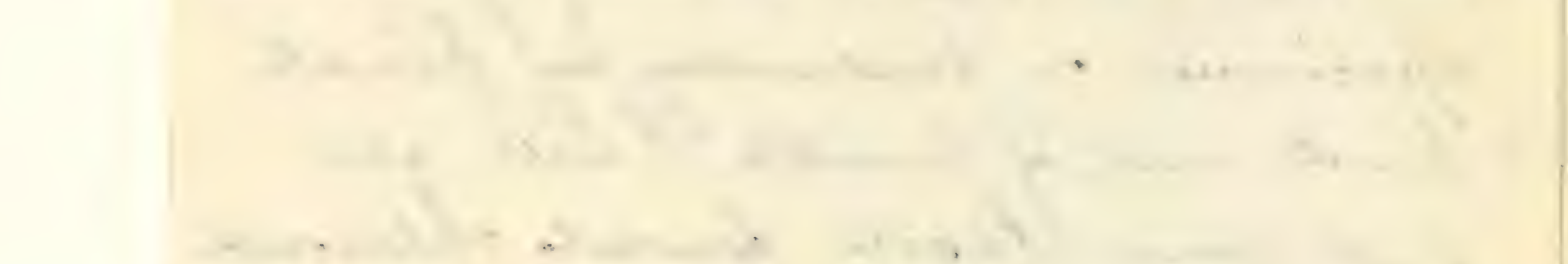
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Rec: March 11th
Ans — 14

Wilmington Del
Mar 7. 1861

Dr G. Engelmann

It has been a long time my dear Sir that your letters of Sept 6 and Oct 4th have remained unanswered. It has not however been because they were forgotten for they have not been out of my pocket since their receipt until now. It is a great satisfaction to know from you that superficialists like myself can have access to you and your observations without being considered as bores. I have learned very much from you during the last year and will be glad to avail myself of the chance again. "That double Sagittaria" — well I could get no flowers and was afraid to send tubers without knowing certainly

that they belonged to the plant. We will try again. The flowers were entirely double no vestige of stamens or styles, resembling a white rose-bud or a very double camellia. Every flower on the scape was double. I kept the only two specimens I had with Dr Darlington or would send to you. I did not suppose Botanists were interested in such monstrosities or I would have secured more. Pedicels about an inch long. My nephew who found it says there were a number of plants in the locality and this season I will try to obtain some for you.

I am glad to hear you acknowledge that Sagittaria calycina is a transition to Echinodorus. I never saw the latter plant but was struck with the general dissimilarity of S. calycina with the other Sagittaria

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The tripod shaped arrangement of pedicels seems so different from the regular verticillate racemes of the other species. The fruit as you say may be that of Sagittaria but it strikes me that hardly one in ten casual observer would place it among Sagittaria.

Your notice of Isoetes riparia is interesting. When about leaving home (having collected some specimens of I. Engelmanni) I directed my foreman to pack and send them to you. I have never heard whether they had been rec'd by you and if so in what condition. The supposed new one I wrote you about I could not obtain at a time suitable to send owing to the pond being so full of water as to entirely flood and apparently destroy it. The one sent grows only in spring water while the one spoken of was in a stagnant pond with the

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water probably at 90°. The yellowish color may have been from this cause, and it may be the T. Engelmanni. I will try again next summer.

Nelumbium would then be counted an annual plant? We have it in this county though it grows near Woodstown N.J. I live so far from alluvial soil that I could not cultivate it. I have sown the seeds but without success. A friend of mine requests that I will give you a question for your decision, and that is as to the nativity of the Delaware grape. Some Cultivators declare it to be a variety of V. vinifera others as resulting from some of our native grapes. If you have seen of the fruiting vines in your neighborhood I will send the flowers in alcohol. It has been traced back some sixty years in this country and its nativity has become the question of the day with grape growers.

as ever yours
E. Tatnall

Rec'd Feb 7
Ans Feb 8

Wilmington Del
Feb 2nd 1868

My Dear Friend
Dr G. Englemann

You doubtless think I have been a long while in fulfilling my promise to you when at your house.

My apology must be, that I have been intending to sit for a later photograph so that I might be brought down to the present writing but not having accomplished it I send or come to you about ten years too young. You will please excuse the delay.

Very respectfully &c
Edw Faludell

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